

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

TEST BOOKLET
LECT (ARCH-ENGG) T.E.-2016

Time Allowed : 2 Hours]

[Maximum Marks : 100

All questions carry equal marks.

INSTRUCTIONS

1. Immediately after the commencement of the examination, you should check that test booklet does not have any unprinted or torn or missing pages or items, etc. If so, get it replaced by a complete test booklet.
2. Write your Roll Number only in the box provided alongside.
Do not write anything else on the Test Booklet.
3. This Test Booklet contains **100** items (questions). Each item comprises four responses (answers). Choose only one response for each item which you consider the best.
4. After the candidate has read each item in the Test Booklet and decided which of the given responses is correct or the best, he has to mark the circle containing the letter of the selected response by blackening it completely with Black or Blue ball pen. In the following example, response "C" is so marked :

(A) (B) ● (D)
5. Do the encoding carefully as given in the illustrations. While encoding your particulars or marking the answers on answer sheet, you should blacken the circle corresponding to the choice in full and no part of the circle should be left unfilled.
6. You have to mark all your responses **ONLY** on the **ANSWER SHEET** separately given according to 'INSTRUCTIONS FOR CANDIDATES' already supplied to you. *Responses marked on the Test Booklet or in any paper other than the answer sheet shall not be examined.*
7. All items carry equal marks. Attempt all items. Your total marks will depend only on the number of correct responses marked by you in the Answer Sheet. There will be no negative marking.
8. Before you proceed to mark responses in the Answer Sheet fill in the particulars in the front portion of the Answer Sheet as per the instructions sent to you.
9. After you have completed the test, hand over the Answer Sheet, to the Invigilator.

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1. A line, plane or volume that, by its continuity and regularity, serves to gather, measure and organize a pattern of form and spaces called :
(A) Axis (B) Datum
(C) Grid (D) Vertex
2. A unifying movement characterized by a patterned repetition or alteration of formal elements or motifs in the same or a modified form is :
(A) Hierarchy (B) Symmetry
(C) Rhythm (D) Transformation
3.can also be established simply by a symmetrical arrangement of form and spaces.
(A) Axis (B) Symmetry
(C) Hierarchy (D) Rhythm
4. How many fundamental types of symmetry are there ?
(A) One (B) Two
(C) Three (D) Four
5. Proper or harmonious relation of one part to another or to the whole refers to :
(A) Scale (B) Proportion
(C) Size (D) Form

6. Le Corbusier's proportioning system, the Modular based on :
- (A) Mathematics (B) Human body
(C) Both of these (D) None of these
7. The basic unit of dimension in the Greek and Roman order :
- (A) Height of column (B) Diameter of column
(C) Shaft dimension (D) Capital dimension
8. Unique visual emphasis can be achieved by endowing a form or shape with :
- (A) Exceptional size (B) A unique shape
(C) A strategic location (D) All of these
9. Which of the following is *not correct* for the given statement :

Progressive, reverberating patterns of form and spaces can be organized in the following ways :

- (A) In a radial or concentric manner about a point
(B) Randomly in a chaotic manner
(C) Sequentially according to size in a linear fashion
(D) Randomly but related by proximity as well as similarity of form.

14.alludes to the size of something compared to a reference standard or to the size of something else.
- (A) Scale (B) Proportion
(C) Shape (D) Form
15.incorporates the fundamental notion of repetition as a device to organize forms and spaces in architecture.
- (A) Symmetry (B) Hierarchy
(C) Rhythm (D) Proportion
16. The articulation of the form or space by its size, shape or placement relative to other forms and spaces of the organization refers to :
- (A) Rhythm (B) Transformation
(C) Hierarchy (D) Proportion
17. Which of the following is *not* a theory of proportion ?
- (A) Classical order (B) Modular
(C) Anthropometry (D) Symmetry
18. Which of the following is *not* an example of spatial organization ?
- (A) Centralized organization (B) Radial organization
(C) Volumetric organization (D) Clustered organization

19. The arrangement of land use in urban areas is known as :
- (A) Typology (B) Space
(C) Urban Structure (D) Street Character
20. Form is the primary identifying characteristics of a :
- (A) Space (B) Shape
(C) Volume (D) Void
21. The characteristic outline or surface configuration of a particular form refers to :
- (A) Shape (B) Space
(C) Volume (D) Size
22. The location of a form relative to its environment refers to :
- (A) Orientation (B) Position
(C) Proportion (D) Scale
23. Match the following :
- | Properties | Quality |
|----------------------------|----------------------------|
| (a) Shape | I. Scale |
| (b) Openings | II. Texture |
| (c) Dimension | III. Degree of enclosure |
| (d) Surface | IV. Form |
| (A) a-II, b-III, c-I, d-IV | (B) a-II, b-IV, c-III, d-I |
| (C) a-III, b-I, c-IV, d-II | (D) a-IV, b-III, c-I, d-II |

24. Which of the following is *not* a type of spatial organization ?
- (A) Clustered organization (B) Centralized organization
(C) Additive organization (D) Radial organization
25. The basic of "Modular man" consists of which of the following ?
- (A) 140, 86 and 27 centimeters (B) 113, 70 and 43 centimeters
(C) 183, 113 and 27 centimeters (D) 226, 140 and 43 centimeters
26. Which of the following statements is *incorrect* ?
- (A) Cool air has a higher density than hot air
(B) Air flow normally takes place from high pressure zones to low pressure zones
(C) The area through which fluid flows decreases, fluid velocity increases and vice versa
(D) Air speed is maximum on the leeward side and minimum at the crest
27. "This analysis also considers the effects of the proposed actions on the areas visual resources, which the CEQR technical manual defines as unique or important public view, corridor, or natural or built features."
- In the above para what does CEQR stands for ?
- (A) Central environment quality representative
(B) Carbon efficiency quantity review
(C) City environment quality review
(D) Carbon energy quantity representative

28. Which of these are *not* streetscape elements ?
- (A) Building entrances (B) Parking lots
(C) Pavements (D) Building courtyards
29. Which of these concerns the arrangement, appearance and functionality of towns and cities, and in particular the shaping and use of public place ?
- (A) Transport planning (B) Environmental planning
(C) Urban design (D) Regional planning
30. Which of these aspects *not* to be considered to arrive at the basis for policies affecting the urban fabric ?
- (A) Visual integration of the city
(B) Policy for tall buildings
(C) Policy on hoardings, street furniture and signages
(D) Housing scheme
31. Spaces grouped by proximity or the sharing of a common visual trait or relationship known as :
- (A) Linear organization (B) Clustered organization
(C) Grid organization (D) Radial organization

32. A balanced distribution and arrangement of equivalent forms and spaces on opposite sides of a dividing line or plane or about a central :
- (A) Axis (B) Symmetry
(C) Radial (D) Hierarchy
33. Which of these are the fundamental type of symmetry ?
- (A) Bilateral symmetry (B) Radial symmetry
(C) Above both of these (D) None of these
34. The visual property of an object dependent on a combination of reflective and absorbed light from the spectrum; includes the properties of hue, value, intensity and brightness :
- (A) Color (B) Texture
(C) Fabric (D) Space
35. The combination of lines, shapes, and/or colours in a consistent, orderly or respective motif :
- (A) Fabric (B) Pattern
(C) Rhythm (D) Shape
36. The golden ratio in architecture is equal to :
- (A) 1.514 (B) 1.618
(C) 0.618 (D) 6.180

37. Which of these *not* implies to hierarchy of a space ?
- (A) Size (B) Shape
(C) Sustainability (D) Placement
38. Which of these is a theory of proportion ?
- (A) Golden section (B) Symmetry
(C) Pattern (D) Rhythm
39. The movements in various forms of art and design, especially visual art, where the work is stripped down to its most fundamental feature defines :
- (A) Hierarchy (B) Minimalism
(C) Rhythm (D) Monotony
40. The physical configuration and features of the site, area or region :
- (A) Tetrastyle (B) Topography
(C) Technology (D) Typology
41. An early and typical example that exhibits the essential features of class or a group and on which later stages are based or judged is called :
- (A) Symmetrical (B) Tentative
(C) Prototype (D) Asymmetrical

42. A series of regularly spaced columns supporting an entablature and usually one side of the roof structure is known as :
- (A) Colonnade (B) Corbel
(C) Courtyard (D) Cornice
43. For clustered organization which of these statements stands *false* ?
- (A) This pattern is similar to that of centralized organization but it lacks the latter's compactness and geometrical regularity
(B) Spaces can be organized about a point of entry to a building
(C) The central space is generally regular in form
(D) A clustered organization can also accept within its composition spaces that are dissimilar in size, form and function but related to another by proximity
44. The size or proportion an element appears to have relative to other elements of known assumed size is called :
- (A) Mechanical scale (B) Visual scale
(C) Symmetry (D) Rhythm
45. When we refer to size of project in the context of the city, we say :
- (A) Urban scale (B) Street scale
(C) Visual scale (D) Human scale

46. Opposition or juxtaposition of dissimilar elements in a work of art to intensifies each element's properties and produce a more dynamic expressiveness :
- (A) Color (B) Context
(C) Contrast (D) Corbel
47. What does CBD stand for ?
- (A) Central business department
(B) Central business district
(C) Central bureau of development
(D) Centre for business development
48. Water would absorb about.....as much heat as concrete for the same rise of temperature.
- (A) Some (B) Twice
(C) Three times (D) Four times
49. Water bodies should be best avoided in :
- (A) Hot-dry climate (B) Warm-humid climate
(C) Hot climate (D) Cold climate

50. The amount of direct radiation received on the street (and to an extent, on the lower floor) is determined by :
- (A) Sun-path (B) Street width
(C) Building typology (D) Street pattern
51. In hot-dry climate, street width to the building height ratio preferably should be :
- (A) Greater than 1 (B) Equal to 1
(C) Less than 1 (D) Greater than 2
52. The phenomenon of heat buildup in cities leads to the formation of :
- (A) Urban island (B) Heat island
(C) Carbon island (D) Greenhouse island
53. In cold climate, trees planted surround the buildings should be preferably :
- (A) Deciduous (B) Evergreen
(C) Sub-alpine (D) Alpine
54. Reflectivity of the material will be enhanced, if :
- (A) Lighter the color, harder the surface
(B) Darker the color, smoother the surface
(C) Lighter the color, smoother the surface
(D) Darker the color, harder the surface

55. A larger perimeter to area (P/A) of a building means :
- (A) Greater the heat gain during the day and greater heat loss at night
 - (B) Greater the heat gain during the day and lesser heat loss at night
 - (C) Lesser will be the heat gain during the day and lesser the loss at night
 - (D) Lesser the heat gain during the day and greater the loss at night
56. In hot climate perimeter to area (P/A) ratio of a building should be kept :
- (A) Maximum
 - (B) Minimum
 - (C) Equal to 1
 - (D) Doesn't affect the environment
57. Arrange the following in increasing order of travelling speed of sound :
- (a) Brick
 - (b) Glass
 - (c) Steel
 - (d) Concrete
- (A) $a < b < c < d$
 - (B) $d < b < a < c$
 - (C) $a < d < c < b$
 - (D) $d < a < b < c$
58. Which of the following frequency ranges heard by the humans ?
- (A) 20-20,000 hz
 - (B) 40-40,000 hz
 - (C) 400-40,000 hz
 - (D) 0-20 hz

59. In hot dry climates the fenestration should be oriented..... :
- (A) North (B) South
(C) East (D) West
60. In humid climates the fenestration should be oriented..... :
- (A) $22^{\circ}1/2'$ of the perpendicular to the direction of air flow
(B) 30°
(C) 40°
(D) 60°
61. Glazing is most commonly used 'control' device for trapping solar radiation. The phenomenon is known as :
- (A) Heat island effect (B) Stack effect
(C) Greenhouse effect (D) Urban island effect
62. The reciprocal of the air to air resistance is known as the transmittance or.....
- (A) E-value (B) U-value
(C) H-value (D) I-value
63. Which of the following is *not* a climatic parameter ?
- (A) Solar radiation (B) Air temperature
(C) Air tunnel (D) Air humidity

64. The wet and dry bulb temperature show identical reading when the relative humidity will be :

- (A) 50% (B) 75%
(C) 25% (D) 100%

65. Quantities of perception are generally measured by :

- (A) Water gauge (B) Rain gauge
(C) Dry bulb (D) Wet bulb

66. Wind speed is measured in meters per second by an instrument called :

- (A) Dosimeter (B) Chronometer
(C) Anemometer (D) Snickometer

67. The main determining factors for the classification of the climatic zones, air temperature and..... :

- (A) Relative humidity (B) Precipitation
(C) Wind (D) Solar radiation

68. Match the following :

- | Climate type | Range |
|----------------------------|----------------------------|
| (a) Macro climate | I. < 100 m |
| (b) Urban/local climate | II. >200k m |
| (c) Meso climate | III. <200k m |
| (d) Micro climate | IV. <500 m |
| (A) a-II, b-III, c-IV, d-I | (B) a-II, b-IV, c-I, d-III |
| (C) a-II, b-IV, c-III, d-I | (D) a-III, b-I, c-II, d-IV |

69. The physical meaning of daylight is radiation in a wavelength range of.....
- (A) 0.2-1.2 micron (B) 0.3-1.5 micron
(C) 0.4-0.7 micron (D) 0.9-1.8 micron
70. What does ASHRAE stand for :
- (A) American society of heating, refrigerating and air conditioning engineers Inc.
(B) Australian society of heating, refrigerating and air conditioning engineers Inc.
(C) American society of heating, refrigerating and air cleaning engineers Inc.
(D) Australian society of heating, refrigerating and air cleaning engineers Inc.
71. What does 'GRIHA' stand for ?
- (A) Green Rating for Integrated Habitat Assessment
(B) Green Rating for Indian Habitat Assessment
(C) Green Ratio for individual Human Activity
(D) General Rating for Integrated Habitat Assessment

72. GRIHA includes total criteria :
- (A) 26 (B) 36
(C) 30 (D) 34
73. How many points does it get for "innovation" in GRIHA RATING SYSTEM ?
- (A) 7 (B) 3
(C) 4 (D) 1
74. Which of the following does *not* come under Griha innovation points ?
- (A) Alternative transportation
(B) Company policy or green supply chain
(C) Enhanced accessibility for physically/mentally challenged
(D) Reduce landscape water requirements
75. Which of the following criteria is partly mandatory in GRIHA ?
- (A) Criteria-3 Soil Conservation
(B) Criteria-1 Site Selection
(C) Criteria-11 Reduce Building water use
(D) Criteria-20 Waste water treatment

76. The following aspects need to be considered to arrive at the basis for policies affecting the urban fabric :
- (A) Areas of significance in built environment
 - (B) Visual integration of the city
 - (C) Policy for tall buildings
 - (D) All of the above
77. How many principal cities created by different rulers to form Delhi State ?
- (A) Seven
 - (B) Six
 - (C) Five
 - (D) None of these
78. Which of the following is *not* a part of Visual survey for public buildings ?
- (A) Form
 - (B) Material
 - (C) Windows
 - (D) Foundation
79. Which of the following building materials has maximum embodied energy ?
- (A) Particle Board
 - (B) Concrete Block
 - (C) Plywood
 - (D) Mineral wool insulation
80. Unit of embodied energy is :
- (A) MJ/kg
 - (B) W/mK
 - (C) kg/kWh
 - (D) MJ/g

81. Which district of H.P. has the lowest literacy rate among males according to 2011 Census ?
- (A) Chamba (B) Sirmaur
(C) Lahul-Spiti (D) Kinnaur
82. In which district of H.P. is Shring Rishi temple ?
- (A) Solan (B) Sirmaur
(C) Kullu (D) Mandi
83. Which raja of Mandi was held captive by Maharaja Sansar Chand of Kangra ?
- (A) Zalim Sen (B) Balbir Sen
(C) Ishwari Sen (D) Shamsher Sen
84. Which raja of Sirmaur laid the foundation of Nahan city ?
- (A) Sumer Parkash (B) Suraj Parkash
(C) Budhi Parkash (D) Karam Parkash
85. When is the festival of Shegtsun celebrated in Lahul-Spiti district of H.P. ?
- (A) First day of Sawan (B) Last day of Sawan
(C) First day of Bhadon (D) Last day of Bhadon
86. In which district of H.P. is Lama Lake ?
- (A) Kangra (B) Lahul-Spiti
(C) Chamba (D) Kinnaur

87. Where is the worship of Parshuram said to have been first established in the Himachal hills ?
- (A) Mamel in Mandi (B) Nirmund in Kullu
(C) Nirath in Shimla (D) All of these
88. How much subsidy is given by the H.P. government on anti-hail nets to protect the fruit from hailstones ?
- (A) 25 percent (B) 40 percent
(C) 60 percent (D) 80 percent
89. In which river basin is Andhra hydel project ?
- (A) Satluj (B) Yamuna
(C) Pabbar (D) Beas
90. Who was the first Governor of Himachal Pradesh ?
- (A) Bhagwan Sahai (B) S. Chakravorti
(C) Bajrang Bahadur (D) Maj-Gen. M.S. Himmat Singhji
91. What are the current parameters that constitute the Social Index in India ?
- (A) Crude birth rate (B) Crude death rate
(C) Maternal mortality rate (D) All of these

92. At which place in Telangana is a thousand pillar temple ?
- (A) Warangal (B) Medak
(C) Nalgonda (D) Ranga Reddy
93. When was Indian coast guard formed to enforce the maritime law ?
- (A) 1956 (B) 1962
(C) 1978 (D) 1985
94. In which case did the Supreme Court of India decide that Right to Water is the right to life ?
- (A) State of Karnataka Vs. State of Andhra Pradesh
(B) Nagraj Vs. Union of India
(C) Selvi Vs. State of Karnataka
(D) Vishaka Vs. State of Rajasthan
95. What is the capital of Lakshadweep ?
- (A) Minicoy (B) Kadamatt
(C) Kavaratti (D) Amini

96. What is the currency of Japan ?
- (A) Yuan (B) Won
(C) Kip (D) Yen
97. To which country does Tennis player Novak Djokovic belong ?
- (A) Germany (B) Serbia
(C) Belgium (D) England
98. Which one of the following is NOT included in the Baltic group of countries ?
- (A) Latvia (B) Iceland
(C) Estonia (D) Lithuania
99. Which is the largest desert in the world ?
- (A) Sahara (North Africa) (B) Kalahari (Southern Africa)
(C) Thar (India/Pakistan) (D) Great Sandy (Australia)
100. Who was crowned Miss World 2015 ?
- (A) Sofia Nikitchuk (B) Maria Harfanti
(C) Mireia Lalaguna (D) Sanneta Myrie